

I claim:

1. An alignment device for being used with prosthetic components, said alignment device having an alignment device longitudinal axis and comprising:

A. a first member comprising:

5 i. a first member first end connectable to a first prosthetic component; and

ii. a first member second end having a channel therethrough with a channel longitudinal axis; and

B. a second member comprising:

10 i. a second member first end connectable to a second prosthetic component; and

15 ii. a second member second end comprising a bar with a bar longitudinal axis for being received within and secured to said channel of said first member, and for being selectably offset from said first member in a direction generally parallel to said channel longitudinal axis, and

wherein one of said first member first end and said second member first end is threadably connectable to one of the first prosthetic component and the second prosthetic component, respectively, to allow said alignment device to be rotatably connected to said one of the first prosthetic component and the second prosthetic component such that the  
20 orientation of said channel longitudinal axis is selectably adjustable to any orientation lying in a plane that is generally perpendicular to said alignment device longitudinal axis.

2. The alignment device of Claim 1 wherein said first member first end comprises a threaded external surface.

3. The alignment device of Claim 1 wherein said first member first end comprises an internally threaded clamp.
4. The alignment device of Claim 1 wherein said second member first end comprises a pyramid.
5. The alignment device of Claim 1 wherein said second member first end comprises a pyramidal receiver.
6. The alignment device of Claim 1 wherein said one of said first member first end and said second member first end that is threadably connectable to said one of the first prosthetic component and the second prosthetic component, respectively, can be further rotated a selected number of one half revolutions with respect to said one of the first prosthetic component and the second prosthetic component to maintain said selected orientation of said channel longitudinal axis and to selectably adjust the distance between the first prosthetic component connectable to said first member first end and the second prosthetic component connectable to said second member first end.
7. The alignment device of Claim 1 wherein:
- A. said first member second end has a hole therethrough into said channel and that is generally perpendicular to said channel longitudinal axis; and
- B. said alignment device further comprises a screw for being received through said hole and for contacting said bar for securing said bar in place within said channel.
8. An alignment device for being used with prosthetic components, said alignment device having an alignment device longitudinal axis and comprising:
- A. a first member comprising:

i. a first member first end connectable to a first prosthetic component; and

ii. a first member second end having a channel therethrough, said channel defining an alignment axis and having two side walls with at least one hole  
5 through at least one of said two side walls; and

B. a second member comprising:

i. a second member first end connectable to a second prosthetic component; and

ii. a second member second end comprising a bar for being received  
10 within and secured to said channel of said first member,

wherein said first member is selectably offsetable from said second member by moving said bar within said channel along said alignment axis, and

wherein at least one screw is insertable through said at least one hole through said at least one of said two side walls to engage said bar and frictionally hold said bar in a  
15 selected position with respect to said channel.

9. The alignment device of Claim 8 wherein:

A. said first member is rotatably connected to a first prosthetic component; and

B. said alignment axis lies in a plane generally perpendicular to said  
20 alignment device longitudinal axis and is adjustable to any selected orientation in said plane by selectably rotating said first member with respect to the first prosthetic component that is connectable to said first member first end.

10. The alignment device of Claim 9 wherein said first member first end is externally threaded and the first prosthetic component is internally threaded.

11. The alignment device of Claim 8 wherein said at least one hole through at least one of said two side walls comprises at least one hole through both of said two side walls.

5 12. In combination:

A. a first prosthetic component;

B. a second prosthetic component having a threaded end; and

C. an alignment device defining a longitudinal axis and that is selectably internally adjustably offsettable along an alignment axis that is generally perpendicular to  
10 said longitudinal axis, and is connectable to said first prosthetic component and threadably connectable to said second prosthetic component,

wherein said alignment device is rotatable on said threaded end of said second prosthetic component so that said alignment axis is adjustable to any selected orientation in a plane that is generally perpendicular to said longitudinal axis, and said alignment  
15 device can be adjusted along said alignment axis to offset said first prosthetic component from said second prosthetic component a selected distance in said any selected orientation in said plane that is generally perpendicular to said longitudinal axis.

13. The combination of Claim 12 wherein:

A. said second prosthetic component threaded end is internally threaded; and

20 B. said alignment device has an externally threaded end for being rotatable on said threaded end of said second prosthetic component.

14. The combination of Claim 12 wherein said alignment device is further rotatable on said threaded end of said second prosthetic component a selected number of additional

one half revolutions with respect to said second prosthetic component to selectively adjust a distance between said first prosthetic component and said second prosthetic component in a direction generally parallel to said longitudinal axis.

15. The combination of Claim 12 wherein said alignment device has a channel and  
5 corresponding shaped bar, said bar defining said alignment axis and being adjustably offsetable from said channel along said alignment axis.

16. The combination of Claim 15 wherein said channel has a side wall with a hole and said alignment device further comprises a screw for being inserted through said hole of said side wall and for contacting said bar to frictionally hold said bar in an intended  
10 position within said channel.

17. In combination:

A. a first prosthetic component;

B. a second prosthetic component having a threaded end; and

C. an alignment device defining a longitudinal axis and that is selectably

15 internally adjustably offsetable along an alignment axis that is generally perpendicular to said longitudinal axis, and is connectable to said first prosthetic component and threadably connectable to said second prosthetic component,

wherein said alignment device is rotatable on said threaded end of said second prosthetic component to selectably adjust a distance between said first prosthetic

20 component and said second prosthetic component in a direction generally parallel with said longitudinal axis, and

wherein said alignment device can be adjusted along said alignment axis to offset said first prosthetic component from said second prosthetic component a selected distance in a plane generally perpendicular to said longitudinal axis.

18. The combination of Claim 17 wherein:

- 5           A.     said second prosthetic component threaded end is internally threaded; and
- B.     said alignment device has an externally threaded end for being rotatable on said threaded end of said second prosthetic component.

19. The combination of Claim 17 wherein said alignment device has a channel and corresponding shaped bar, said bar defining said alignment axis and being adjustably  
10   offsetable from said channel along said alignment axis.

20. The combination of Claim 19 wherein said channel has a side wall with a hole and said alignment device further comprises a screw for being inserted through said hole of said side wall and for contacting said bar to frictionally hold said bar in an intended position within said channel.

15   21. The combination of Claim 17 wherein the orientation of said alignment axis can be selectively adjusted within a plane generally parallel to said longitudinal axis by rotating said alignment device on said threaded end of said second prosthetic component.

22. In combination:

- A.     a first prosthetic component;
- 20           B.     a second prosthetic component; and
- C.     an assembly having a longitudinal axis and an alignment axis that lies in a plane generally perpendicular to said longitudinal axis, said assembly comprising:
  - i.     a first end connectable to said first prosthetic component;

- ii. a second end connectable to said second prosthetic component;
  - iii. means for selectably offsetting said first prosthetic component and said second prosthetic component in a direction generally parallel to said alignment axis, wherein said means for selectably offsetting said first prosthetic component and said second prosthetic component is located at an interface between said first end and said second end; and
  - iv. means for selectably displacing said first prosthetic component from said second prosthetic component in a direction generally parallel to said longitudinal axis, wherein said means for selectably displacing said first prosthetic component from said second prosthetic component is located at least at one of an interface between said assembly and said first prosthetic component and an interface between said assembly and said second prosthetic component.
23. The combination of Claim 22 wherein:
- A. said second prosthetic component has a threaded end;
  - B. said second end of said assembly is threaded; and
  - C. said second end of said assembly can be rotated on said threaded end of said second prosthetic component.
24. A method of aligning a prosthetic limb comprising the steps of:
- A. providing a first prosthetic component having a threaded end;
  - B. providing a second prosthetic component;
  - C. providing an alignment device comprising a first end that is threadably connectable to the threaded end of the first prosthetic component, and a second end that is connectable to the second prosthetic component, wherein the alignment device has a

longitudinal axis and an alignment axis that lies in a plane generally perpendicular to the longitudinal axis;

D. inspecting the location of the first and second prosthetic components in relation to each other to determine the required amount of adjustment of the first

5 prosthetic component relative to the second prosthetic component in order to place the first and second prosthetic components into a selected alignment;

E. rotating the alignment device on the threaded end of the first prosthetic component until the alignment axis is in a selected orientation in a plane generally perpendicular to the longitudinal axis, wherein the alignment device is oriented to adjust  
10 the second prosthetic component relative to the first prosthetic component in the lateral-medial direction and the anterior-posterior direction by making a single adjustment to the alignment device along the alignment axis;

F. locking the alignment device on the threaded end of the first prosthetic component after the selected orientation is achieved;

15 G. adjusting the second end of the alignment device relative to the first end of the alignment device in a direction generally parallel to the alignment axis a selected distance to align the first prosthetic component with the second prosthetic component to the selected alignment; and

H. locking the first end of the alignment device in the selected position with  
20 respect to the second end of the alignment device.

25. The method of Claim 24, after the step of rotating the alignment device on the threaded end of the first prosthetic component until the alignment axis is in a selected orientation in a plane generally perpendicular to the longitudinal axis, comprising further



the step of further rotating the alignment device on the threaded end of the first prosthetic component in increments of  $\frac{1}{2}$  revolutions in order to selectably adjust the distance between the first and second prosthetic components.

26. The method of Claim 24 wherein the step of providing an alignment device  
5 further comprises providing an alignment device with a channel defining the alignment axis and a bar shaped complimentary to the channel and for being adjustably received within the channel.

27. The method of Claim 26 wherein the step of providing an alignment device  
further comprises providing a hole through the channel for receiving a screw and the step  
10 of locking the first end of the alignment device in the selected position with respect to the second end of the alignment device comprises the step of inserting a screw through the hole through the channel and selectably making the screw contact the bar.